Quality of intimate relationships and Cardiovascular Risk Development: Insights from a UK Longitudinal Study.

Hamid Reza Tohidinik[1], Yoav Ben-Shlomo[2], Abigail Fraser[1]

[1]Centre for Academic Child Health, Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK, [2]Population Health Sciences, Bristol Medical School, Bristol, UK

Take-home message:
The association between changes in the *Quality of Relationships (QoR)* and *Cardiovascular Disease (CVD) risk factors* in women was *inconclusive* in this study.
Negative changes in the *Control* subscale of QoR may contribute to *obesity* in male partners. However, this association was not observed in the Care subscale and requires further research.

BACKGROUND

- Identifying factors that contribute to the development of cardiovascular risk factors is essential for the development of effective prevention and intervention strategies.
- The Quality of intimate Relationship (QoR) has been recognized as a critical factor in individuals' overall well-being and life satisfaction.
- QoR has been linked to various aspects of mental and physical health.

Aim:
To assess the association between the change in Quality of intimate Relationship and subsequent Cardiovascular Disease risk factors.

METHODS

➢ **Participants:** ALSPAC G0 mothers (n = 5044) and their partners (n = 2333).

➢ **Exposure:** Two 12-item subscales of Intimate Bond Measure (IBM) as the measure of QoR, administered at *6 years* and *12 years* post-partum:

1. *The Care:* Indicates the responders partner's level of kindness and warmth.
2. *The Control:* The responders partners' level of criticism and dominance (reversed here for simplicity of interpretation).
- Each subscale scores from 0 to 36, and higher scores indicate greater QoR.
- Due to the skewness of the data, we grouped data into tertiles and categorised as:
- **Tertile 1**: Poor relationship
- **Tertiles 2 or 3**: Good relationship

- We considered **the change** in QoR subscales as:
1- Consistently good
2- Consistently poor
3- Deteriorating
4- Improving

➢*Outcomes:*
- CVD Risk factors measured at clinic (**18-20 years post-partum**):
- BMI
- Waist circumference
- DXA assessed fat mass index (FMI)
- Blood pressure
- Arterial distensibility
- Carotid intima-media thickness
- Fasting glucose
- Proinsulin & Insulin
- C-reactive protein (CRP)
- Lipids (Cholesterol, Triglycerides, HDL, LDL)

➢**Covariates in multiple linear regression:**
Age, Education, Index of multiple deprivation (IMD)
Parity, Traumatic life event scores, Smoking & Alcohol consumption before pregnancy,
Anxiety & Depression (1.7 yrs post-partum)
Postnatal Body Mass Index (BMI)

➢ To address the potential _selection bias_ due to **missing data**, we applied inverse probability weights **(IPW)** to the regression models.
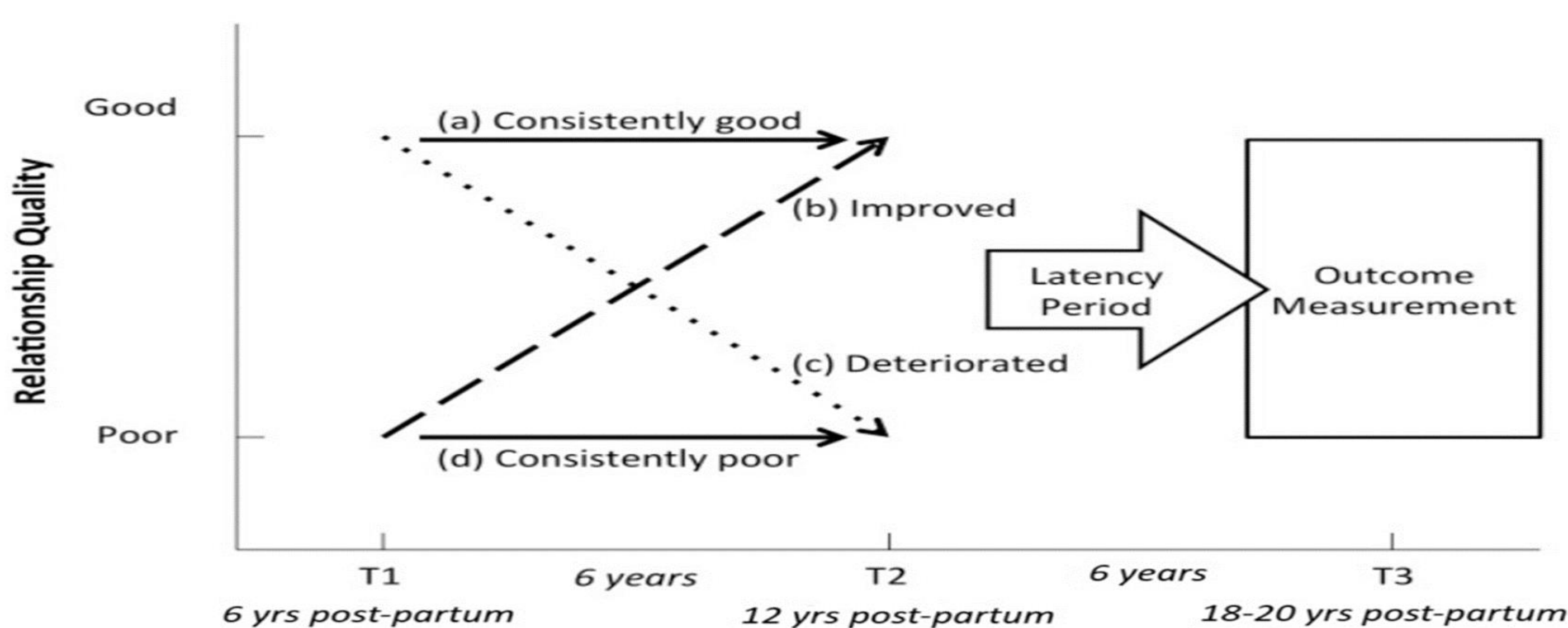

Fig 1: Longitudinal patterns of Relationship Quality and outcome measurements.
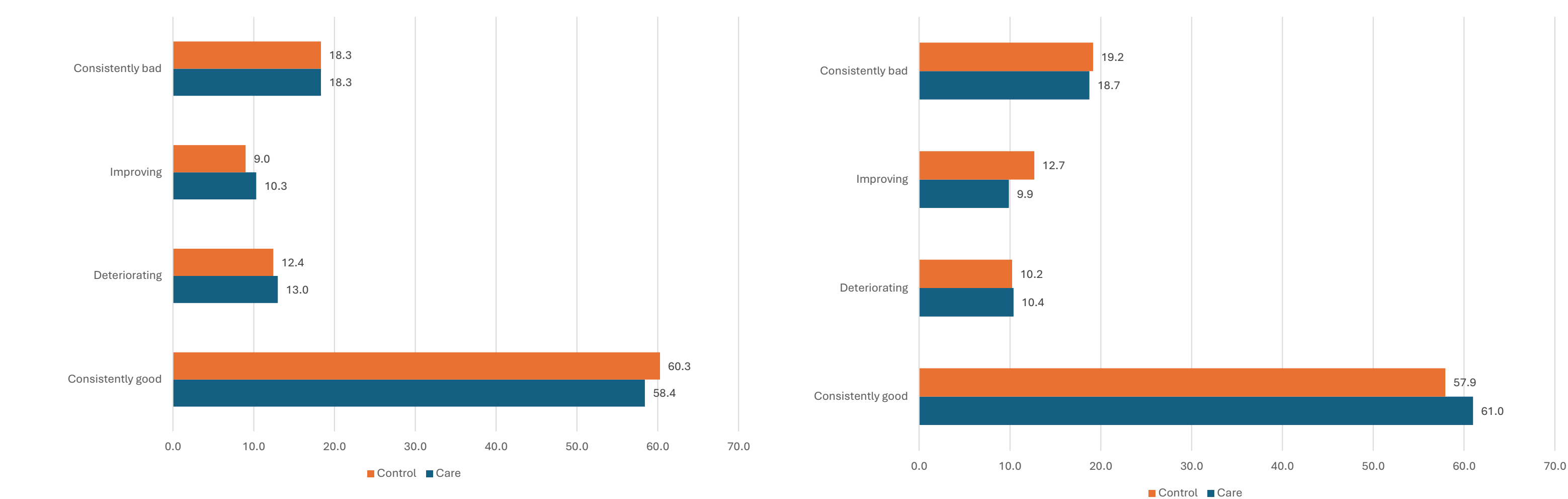
RESULTS

Fig 2: Change in mothers' and partners' QoR scores (%) between 6 and 12 yrs post-partum
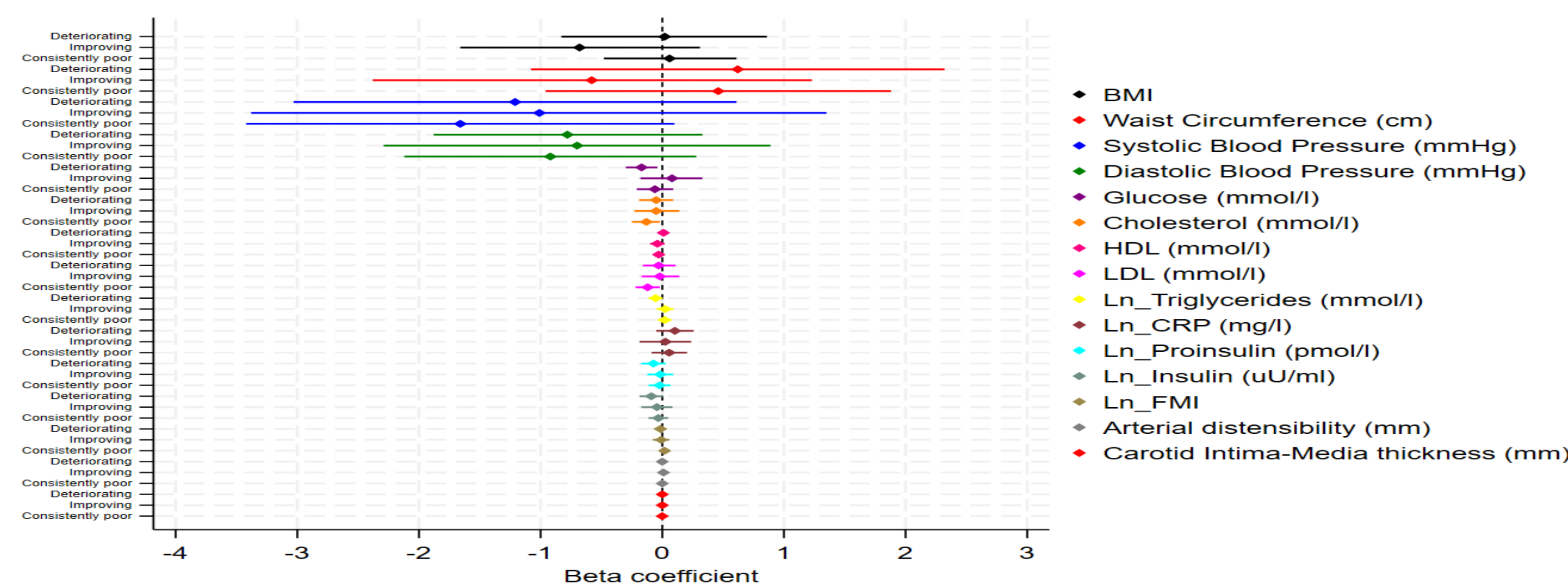

Fig 3: Care change in ALSPAC mothers and subsequent CVD risk factors
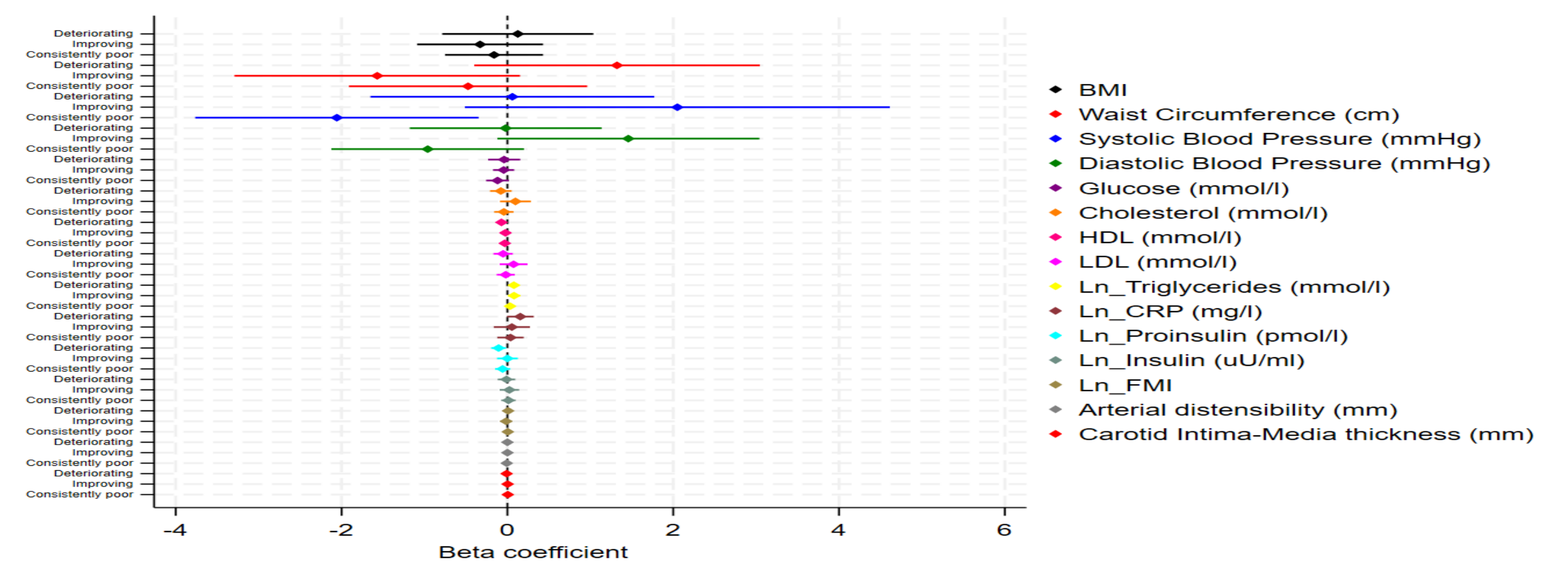

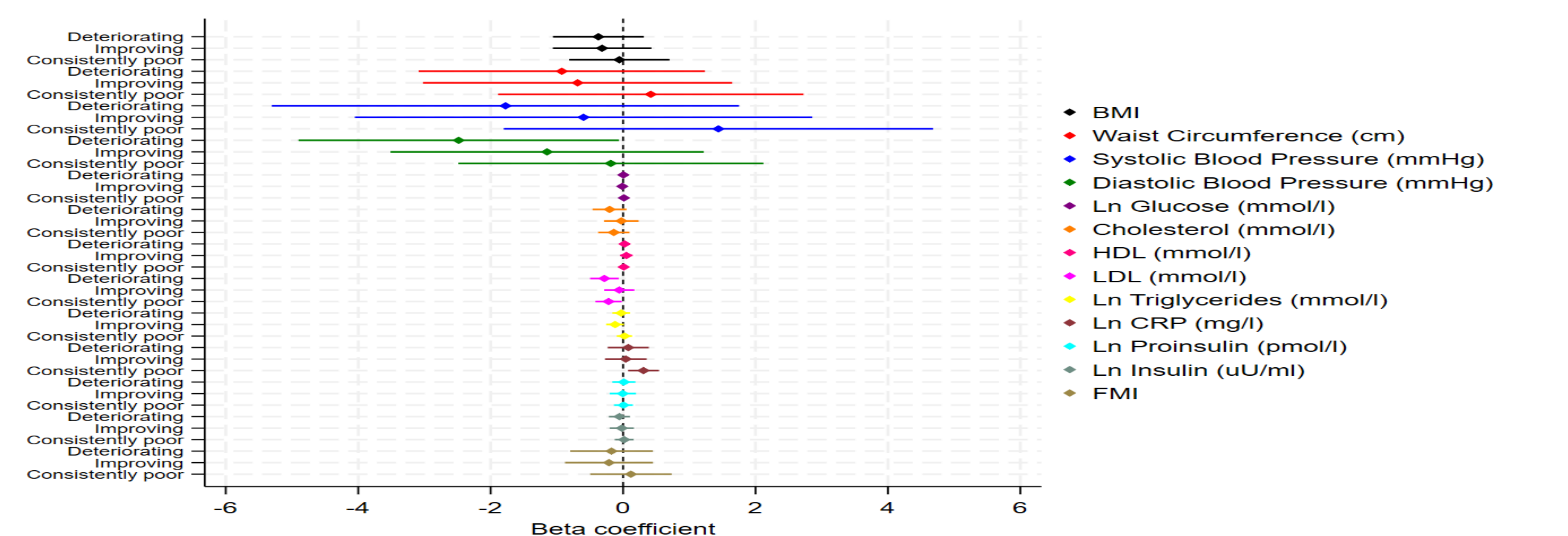**Fig 4: Control change in ALSPAC mothers and subsequent CVD risk factors**

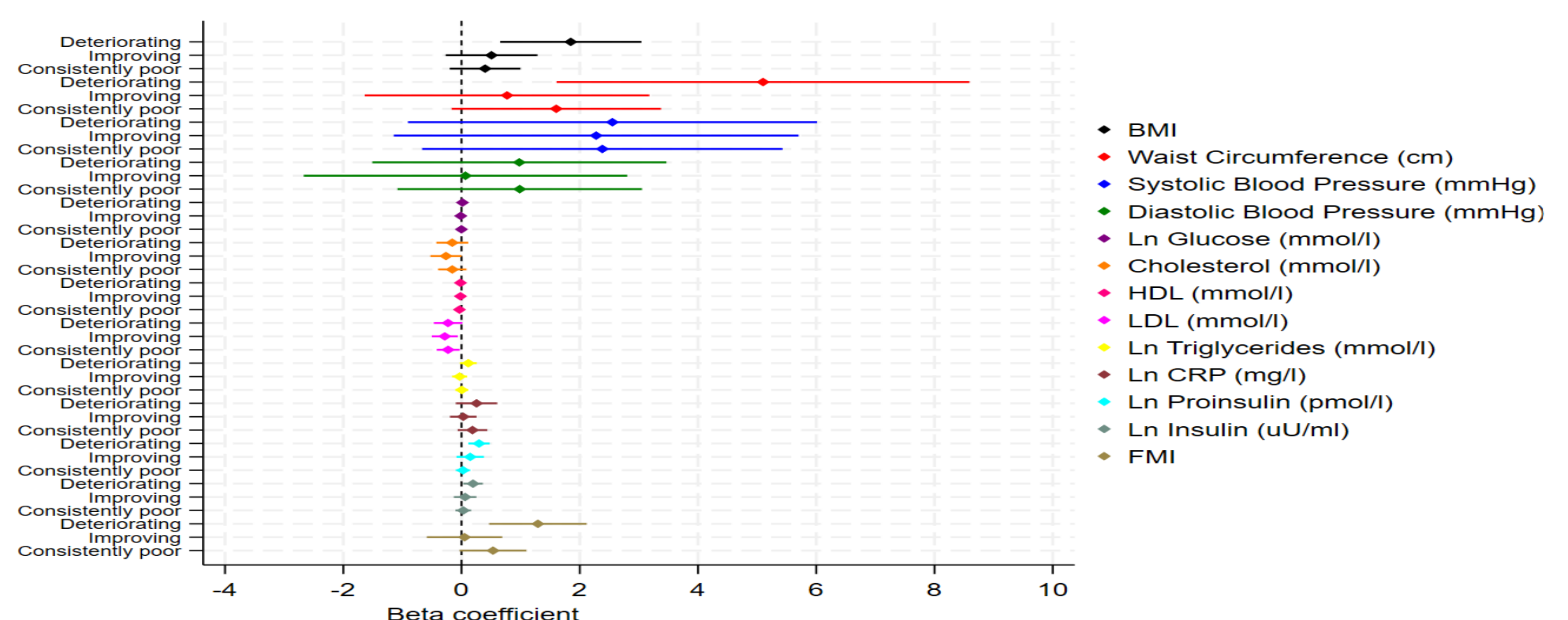**Fig 5: Care change in ALSPAC male partners and subsequent CVD risk factors**

Fig 6: Control change in ALSPAC male partners and subsequent CVD risk factors

Email address: re21901@bristol.ac.uk